What is claimed is:

1. A high voltage semiconductor device, comprising:

a high concentration collector area of a first conductive type;

a low concentration collector area of a first conductive type formed on the high concentration collector area;

a base area of a second conductive type formed on the low concentration collector area and having a trench which penetrates the low concentration collector area in a vertical direction at a junction termination;

a high concentration emitter area of a first conductive type formed on a predetermined upper surface of the base area; and

an emitter electrode, a base electrode, and a collector electrode isolated from one another and connected to the emitter area, the base area, and the collector area, respectively,

wherein the depth of the trench is 50-150 μm.

2. The high voltage semiconductor device of claim 1, further comprising an oxide layer which fills the trench.